Figure 1

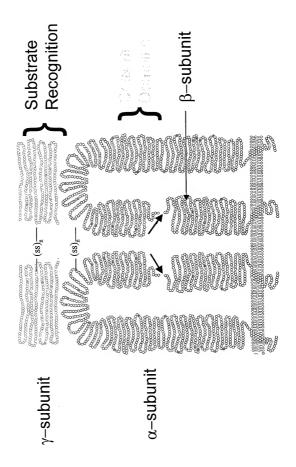
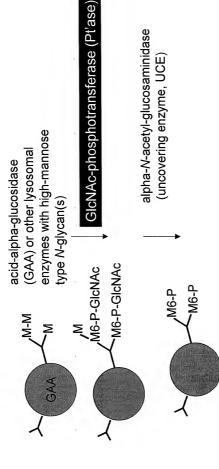
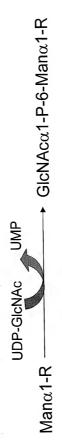


Figure 2

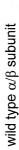


After phosphorylation/uncovering, lysosomal enzyme is recognized by mannose-6-phosphate receptor (M6PR) and targeted to lysosome.

Figure 3



GlcNAc-phosphotransferase



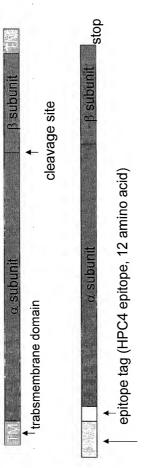


Figure 4

Figure 5

-----DEEESLKTQLAYFTDSKNTGRQLKDTFADSLRYVNKILNSKFGFTS----alpha subunit wild type

beta subunit

Factor Xa ---- FTDSKNTG IEGRDTFADS---- Enterokinase --- FTDSKNTDDDDKDTFADS---

---- FTDSKNRARYKRDTFADS----

---- FTDSKNPGAAHYDTFADS----

Genease I

Furin

Figure 6A

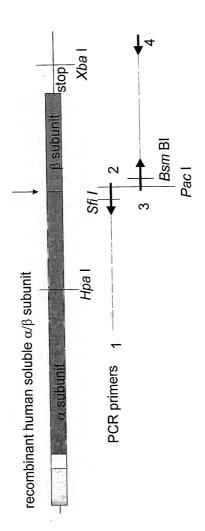


Figure 6B

Pac | BsmB s-caggcaattaattaa α cstctgcagattccctcagatatgtaaataa $^{-3}$

PCR primer 3

PCR primer 2

ADISLRYVNKI DEEESLKTQLA

Pac | BsmB Sfi

Figure 6C

---GACGAAGAGAGAGACATIGAAGACACAATTGGCCTACTT GGCCTTAATTAACGTCTCT GCAGATTCCCTCAGATATGTAAATAAAATTC---GCAGATTCCCTCAGATATGTAAATAAAATTC---FAAGGGAGTCTATACATTTATTTAAG-ligation with DNA oligos Sfiland BsmBl BsmB | ADSLRYVNKI ---GACGAAGAAGAGTCATTGAAGACACAAATTGGCCTACT ---CTGCTTCTTCTCAGTAACTTCTGTGTTAACCGGA DEEESLKTQLAY

Factor Xa ---ACACAATTGGCCTACTTCACTGATAGCAAGAATACTGGGATCGAGGGAAGAGATACATTTGCAGATTCCCTCAGA---T Q L A Y F T D S K N T G I E G R D T F A D S L R

Furin ---ACACAATTGGCCTACTTCACTGATAGCAAGAATAGAGCCAGATACAAGAGAGATACATTTGCAGATTCCCTCAGA---T Q L A Y F T D S K N R A R Y K R D T F A D S L R

T Q L A Y F T D S K N T D D D D K D T F A D S L R

T Q L A Y F T D S K N P G A A H Y D T F A D S L R

T Q L A Y F T D S K N T G R Q L K D T F A D S L R

Enterokinase

Genease I

Wild typee

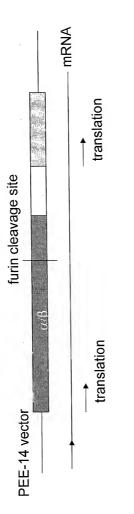


Figure 7